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No turning back from space!

EDWIN BLACK

The world entered the Space Age Jan. 7-8, 1985.

Future historians, searching for a precise date and place for this event, are likely to select the George Shultz-Andrei Gromyko meeting in Geneva as the benchmark.

Of course, man has been operating in space since Sputnik sailed into orbit in October 1957. But only recently have U.S. and Soviet space programs moved beyond the research and development phase. Not until Geneva did space assume a political identity.

It was there that the two superpowers accepted space as the new national security dimension, of equal (if not greater) strategic importance as land, sea, or air. They agreed that when the next round of arms control negotiations formally begins March 12, they would deal with three subjects: intermediate-range nuclear forces in Europe; strategic offensive forces; and "preventing an arms race in space." (In Kremlin terminology, this last item would read, "preventing the United States from building a ballistic missile defense.")

But by acknowledging that offensive and defensive strategic systems both involve space and must be considered together in disarmament discussions, the United States and the U.S.S.R. tacitly recognized certain unmentioned realities which will shape the course of events over the next decade.

Summarized briefly, they are:

1. Defensive systems are rapidly becoming capable of neutralizing strategic offensive forces.

The history of warfare demonstrates that over the centuries there have been periods when offensive armaments have prevailed over defense, and vice versa. These periods have alternated like a sine curve plotted on time's relentless axis.

The introduction of nuclear weapons, combined with the intercontinental delivery capabilities of ballistic missiles, gave the offense the unprecedented advantage it retains to this day.

However, the same rapid advances in science and technology that have projected man into space make it only a matter of time before defense regains its former preeminence over offense.

To attempt to halt, or even impose a moratorium, on this continuing offense-defense cycle would be as futile as trying to force the nuclear genie back into the bottle or trying to halt the continuing progress of science.

2. Both superpowers are basing their long-range plans on the assumption that (a) defense against ballistic missiles is feasible and will improve with time; and (b) significant elements of such defenses will be in place within this decade.

This conclusion was reinforced last June 10, when the U.S. Army achieved the world's first interception of an incoming ballistic missile warhead. This was accomplished with a non-nuclear antiballistic missile more than 100 miles above the western Pacific Ocean. It amounted to a full-scale test of present state-of-the-art technology, combining three off-the-shelf components: a remarkably sensitive long wave-length infrared sensor, an on-board optical homing device and a miniaturized solid-state computer, all packaged in the nose of the ABM. The interception demonstrated that the accuracy of U.S. guidance systems now makes it possible to hit one bullet with another.

As for the Soviets, they have been working on ABM defenses since 1967. This January, the U.S. intelligence community estimated that the U.S.S.R. would be able to deploy a full-scale, nationwide ABM system within 10 years. In 1982, Marshal Ogarkov, then chief of staff of the Soviet Armed Forces, reported to the Politburo that ballistic missile defenses were "not only desirable, but inevitable."

3. MAD is OBE. Mutual assured destruction has been overtaken by events and technology. It has lost its credibility.

Strategists agree that MAD contributed to deterrence when it was conceived some 25 years ago. At that time the prospect of massive nuclear retaliation against defenseless population centers created a "balance of terror" that had a stabilizing effect.

But as stockpiles of nuclear warheads soared into the 9,000 range on both sides and as missile accuracies improved dramatically, the world situation became increasingly unstable. This is because it is now possible to plan a nuclear first strike which would leave the attacker with such large reserves of unused weapons that it would be suicide for the already decimated victim to attempt the retaliation called for under MAD.

As the London *Economist* described it, "In the terrifying logic of the nuclear exchange, this certainty of a Soviet third strike would paralyze the American second strike which is supposed to deter the Russian first strike."

And since MAD is overtaken by events, it follows that the ABM Treaty, which provides the legal foundation for MAD, is also overtaken by events.

4. People everywhere, including those in the Soviet Union, are fed up with their role as helpless hostages to mutual assured destruction. They also are convinced it is stupid to waste much-needed resources by adding to the already excessive stockpiles of nuclear arms.

The alternative, mutual assured survival, which has been offered to

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all mankind by the American president has such enormous political appeal that neither the Politburo nor the U.S. Congress dare ignore it any longer.

5. Space technology's impact on national security and economic development will be the primary factor in shaping future political alignments throughout the world.

Since ballistic missile defenses involve operations in space, they necessarily will be global in scope. But if the Soviets reject President Reagan's invitation to join with us in building worldwide ABM defenses for all nations, two competing systems will emerge. As only the superpowers have the resources to build such systems, other states will be forced by circumstances to choose whose ABM shield they want over their heads.

Fortunately for the Free World, the greatest concentrations of technological know-how are in Western Europe, Japan, and the United States. All three follow an economic philosophy of free enterprise, are firmly committed to the principles of democracy, and are linked with the United States through mutual defense treaties. The combination of the scientific and industrial capabilities of these three centers gives them an overwhelming advantage over the U.S.S.R. and the Soviet bloc.

Such a powerful trilateral coalition will generate a strong political gravitational pull. This will be reinforced by a similar economic attraction. Underdeveloped nations and larger states such as Brazil, India, and China will wish to share the terrestrial benefits of space science. Given a choice, they would naturally prefer to associate themselves with the technological leaders.

They are well aware that these benefits will be considerable. For example, the revolution in global communications made possible by some 30 privately owned satellites now in orbit generates more than $1.5 billion in revenues each year. In the field of medicine, one month's production of pharmaceuticals in space is the equivalent of 30 years of production on the ground. Cheaper and more powerful computers are made possible by the creation of semi-conductor chips of exceptional purity in the zero gravity of space. Recent experiments during shuttle flights show promise that lighter, stronger metals and new, high-yield varieties of crops lie ahead.

Everything considered, when President Reagan announced his Strategic Defense Initiative in March 1983, he did much more than simply raise hopes for mutual assured survival through the construction of effective ABM defenses.

His bold proposal highlighted the interrelationship of the political, economic, technological, and defense aspects of space.

As a result, statesmen are beginning to understand that the inevitability and rapidity of scientific progress in this new national security dimension will have more influence on international affairs than will the narrow political ambitions of nation states.

Edwin Black is a retired U.S. Army general.